THE IMMERSIVE MOVABLE OBJECT:

CONTEMPORARY POP-UP BOOKS

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Exhibition and Catalogue
by
JOAN LINKS

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INTRODUCTION

The movable pop-up book is a magic trick made from paper. The joy of a pop-up book is that it defies the readers' preconceptions and certainties. Our preconception of paper is that it is flat, weak, and easily damaged. Books or codices are flat rectangles that open to flat paper pages that should be carefully handled. To access the content of the book, the pieces of paper must be lifted and turned to reveal new pages and content. Handled carelessly, the pages can be torn, crumpled, buckled by liquids, or stained by dust or dirt. The contents of the pages are also flat. The text and the images remain static on the page, and are expected to remain so.

A closed flat rectangular movable book looks like a conventional book. But to lift the cover and to have the contents literally spring upwards towards the reader as a three-dimensional structure is surprising, amazing, and delightful. That these structures can twirl, move, and reposition themselves, and sometimes make sounds, never seems to fail to delight the reader, even with repeated readings. They continue to be almost miraculous, even to readers who are fully aware of what will happen each time the book is opened.

Most of the works in this exhibition have no static pages. Letters and words move, and illustrations rise. Some even transform from one three-dimensional object to another three-dimensional object within the same spread. The reader is invited, on almost every page, to physically interact with the content, to create their own experiences and, often, create their own narratives. Added to the experience is the sensation that the movable book is even more fragile, and more likely to be damaged as it is interacted with. The reader feels that the book should be handled with great care. Counter to this expectation, many movable books live undamaged, with all the spreads still working even after many years of use due to clever design and paper engineering.

BRIEF HISTORY

Movable elements within a book have a long history. The earliest work in this exhibition dates to 1567, and it features a volvelle. A volvelle is a set of wheels attached to each other through a central pin. Each wheel can be spun by the reader on its own to new settings in relation to the other wheels. In the examples in this exhibition, the volvelles are used as calculators: to calculate time settings for use in navigation, global positions when travelling, and astrological predictions. By the 1700s, flaps, which are similar to tabs, were added to books for children. A flap or lift-up is a piece of paper that is tipped or glued with a fold on one edge to an underlying page obscuring the image or text below it. It is up the reader to lift the flap to find the hidden information.

By the 1800s the Industrial Revolution had automated paper production. Inexpensive wood pulp became increasingly available later in the century. Presses were redesigned and automated. New inks were experimented with, and colour illustrations became increasingly inexpensive to produce. The design and use of a die-cutting machine to stamp out numerous shapes consistently from within a single sheet of paper meant that the labour-intensive job of manually cutting out shapes with knives and scissors was eliminated. Now there was no limit to how many or how intricate the small elements in a pop-up could be produced. What did not change, and has not changed, was the need for a skilled manual workforce to hand assemble the finished work.

As the technological changes developed, the paper engineer emerged. By the late nineteenth century, British and German publishers began to produce intricate, colour-printed, multi-dimensional interactive 'toy' books for children in a large variety of subjects. One of the most famous and innovative was the German illustrator and paper engineer Lothar Meggendorfer. In the late nineteenth century and early twentieth century, he pioneered many of the most common pop-up elements used in modern movable books

As toy books gained popularity and accessibility, greeting card manufacturers began to use the technologies to create diverse, colourful, and intricate cards. Through the nineteenth century, Valentine's Day cards became popular. The Valentine's Day cards displayed in this exhibition demonstrate a bridge point in the history of pop-ups. Printed on inexpensive card paper, they are brilliantly coloured. They could be produced in multiple stamped-out shapes which can be unfolded out or down, and may have small additional movable elements, as was common in the movable books of this pivotal period.

The toy book almost disappeared in the early twentieth century as World War I, the Great Depression, and World War II suppressed both markets and skilled labour. Inexpensive cards did not disappear, however. They continued to be produced, widely purchased, and sent out and shared throughout the early twentieth century, keeping the format alive.

In many ways it can be argued that the Prague-based publisher Artia, a government agency tasked after World War II with finding international markets for Czechoslovakian products, re-created the market for the movable book in the latter half of the twentieth century. The toy books designed and illustrated by Vojtěch Kubašta were a huge international success story, selling in twenty-six countries and in seventeen languages from 1953 to the 1990s. Their popularity did not go unnoticed by publishers in Britain and the United States. At first, publishers commissioned books from Artia, to take advantage of their skilled workforce. Soon, however, they began to look for their own skilled printers and workforces to assemble the books. Prominent amongst the publishers was the American publisher and entrepreneur Waldo Hunt, who founded the California-based Intervisual Communications. While he was able to assemble an impressive stable of authors, illustrators, and paper engineers, the presses in North America did not have the skilled, inexpensive workforces

needed to assemble the books in a way that was profitable. To make the books economically viable, Hunt turned to South America for facilities and workforces. The first books sold by Intervisual were printed in Columbia and assembled in Ecuador. At the same time, Hunt assembled a team of paper engineers and designers in California to work on the initial design and technical aspects of publishing a movable book. Many of the paper engineers featured within the exhibition worked and trained at Intervisual, and Hunt's company became a model for all other publishers of movable books in North America and Britain.

As world economies in the latter years of the twentieth century became more and more integrated, the presses and workforces assembling the books moved around the globe. To illustrate this global movement, the exhibition catalogue includes, wherever possible, information on the country in which the books were printed and assembled. This demonstrates the never-ending hunt for inexpensive, skilled workforces in assembling these books. Most of the books published in the last fifteen years were printed in China and, lately, in Thailand. One of the books in the exhibition, *The Elements of Pop-Up* (Case One) illustrates this trend. The first edition was released in 1999 and was printed in Columbia and bound in Ecuador. The work is still in print, but is now listed as 'Manufactured in Thailand'.

THE MOVABLE BOOK AND NARRATIVE

The interactive features of the movable book affect the narrative. Readers expect a linear narrative within a book that may be supplemented or enhanced by an illustration printed on the same page as the text. In the case of the graphic novel or comic books, the stories are told through the images and dialogue as they appear on the paper's surface. In contrast, many of the movable books in the exhibition invite the reader to create their own narrative. There may be multiple images and text modules on a single spread, each with different pop-up structures. These encourage the reader to open the spreads, push and pull the tabs, and to explore the text modules at their own pace and choice. In the pop-up alphabet books, the text itself rises.

The density of the content discourages linearity and encourages the reader to immerse themselves in the spreads. We the reader are invited to explore the various features within a spread and to flip back and forth through the book to find our own narrative. Some of the works in the exhibition push the possibilities even further: they either largely or completely dispense with text and narrative altogether. They move into artistic interconnected visual statements for which the reader can create their own narrative—or dispense with it altogether.

THE ROLE OF PAPER AS A MEDIUM

Paper, the medium most often used to create a movable book, is made out of cellulose fibres. The paper can be made from almost any dried plant fibre, including vegetables and fruit. Most publishers use paper made out of fibres derived from wood chips, cotton, linen, or kozo (paper made from the bark of mulberry trees). Each fibre material provides the paper with its own special properties. Crisp, firm papers made out of wood pulp or cotton and linens are considered a more suitable medium to make a three-dimensional movable, yet rigid, structure or sculpture. Thin papers and very malleable fibres may be considered too soft or flexible to support a large free-standing pop-up, but soft papers can be used for structures like origami shapes or two-dimensional structures such as flaps and volvelles. Three-dimensional use of thin, soft papers can be seen in tissue paper accordion shapes used in Valentine's Day cards. Painted papers such as paste papers are often used in illustrations. They are torn, cut, and collaged to create the illusion of complexity.

The paper used for a modern pop-up must have certain specific qualities, and usually requires a contradiction: it must be both rigid and flexible at the same time. A very complex pop-up structure should rise up and remain in place each and every time the mechanism is activated. The paper should be strong and resistant to easy tearing and wilting, yet also be flexible and able to hold a fold permanently. It should also be able to bend into a cylindrical or spherical shape under pressure, and return to a flat object once the pressure is released.

THE ROLE OF THE PAPER ENGINEERS, DESIGNERS, PRINTERS, AND THE PEOPLE WHO ASSEMBLE THE BOOKS

Movable books are labour-intensive projects, often requiring large skilled workforces to produce a single book. These can include the authors of the text, the artists who created the illustrations, and the paper engineer who designed the pop-ups. Often, the credits in the books do not include the names of these skilled individuals who assemble the books. Where possible, I've included in the listings of the books in the exhibition the multiple people involved in the initial stages of conception and design of the book.

The movable elements are designed and created by a paper engineer. The engineer translates the illustrations and the concepts within the works into two- or three-dimensional structures that move. They can be the authors of the book as well as the designers and creators of the illustrations; or they may be the person who translates and converts the flat illustrations made by a separate illustrator into three-dimensional pop-ups.

There is a great deal of creativity in the ways the paper engineer can design the pop-up elements. The only restrictions on the designs are the mandate that the elements within the pop-up will rise exactly as conceived each time a spread is opened, and must fold down to a flat structure when the spread is closed. The entire design and engineering process is long and intensive. The design work for earlier books would have all been done manually. As

...ork, in the year One thousand eight
...ce, of the Department of Agriculture.

technology changed, the design processes were increasingly automated: first through the use of photography, and then through the use of computers and computer programs, to new, always-evolving computerized printing equipment. *The Elements of Pop-up* (Case One) has an extensive list of credits in its colophon.

After the design work is complete, it will be sent to the printing facility. At this stage, more design work may be required so that the assembly can be performed as efficiently and economically as possible. The spread pages are printed, as are the sheets for the pop-up elements. If a pop-up is truly three dimensional, it will have images on both the back and front of the printed page. The printing process must precisely align the images on the sheet so that when they are cut out, nothing is visually and mechanically out of alignment when assembled or viewed by the reader. One of the tasks for the designers is to arrange the pop-up illustrations on the paper sheet prior to being printed, similar to arranging sewing patterns on a piece of cloth. The goal is to maximize the use of substrate material so there is little waste when the pieces are cut out. Metal dies similar to huge cookie cutters specific to each different printed sheet are made, and the parts of the pop-up are stamped out. The cut forms are then separated and hand assembled and hand mounted onto the spreads by a team of specialized, trained technicians.

Pop-ups are the last elements of the book to be assembled. Each part must fit precisely in a specific order. Very complex structures, such as in *Transformers* (Case Three) and the creatures in *Beyond the Sixth Extinction* (Case Eight), often contain many very small parts. Each part must be placed in the correct spot within the pop-up mechanism, and any misalignment will result in the mechanism not working—the spread will not open properly and will not fold down flat when the spread is closed. Lastly, the assembled spreads are gathered and bound together and attached to a specially designed binding.

Every part of the creation of a full book of pop-ups must be precise or the book and its contents will not survive intact after its first opening. Even then paper can still tear, as has happened with *The Story of Everything* (Case Five), and glued joints and connections can dry out and fail, as with the bird in *Creatures of the Desert World* (Case Five). This will be especially true of very well-loved books that are opened and activated over and over again. Paper pop-up books will always have an element of fragility.

THE THREE-DIMENSIONAL BOOK

The physical structure of a movable book is a modified accordion book folded within a hard cover binding. The pop-ups are activated by the reader through a structure created out of linked pages often folded into a shape similar to the capital letter 'M' (thus, the mountain fold). The sides of the 'M' are folded back towards the 'V' in the middle. This is the spread. The 'V' (valley) fold is the simple activating element that creates all the kinetic energy necessary to lift and open out the pop-up. The side folds are often linked back to each other, leaving a hollow space beneath

the spread. Most modern pop-up books are designed so that the working mechanisms—such as the tabs that hold the pop-up to the spread, and other elements including the mechanisms for the pull tab—are hidden within the hollow space. *The Elements of Pop-Up* (Case One) is designed with flaps that show the underlying mechanisms of the element when the flap is lifted.

The spread is the two-page structure that activates the classical pop-up through kinetic energy produced by the reader as they open the spread and activate the folds in the pop-up elements. The pop-ups themselves are constructed out of the two 'V' and 'M' folds, each working with each other to lift and unfold the sculpture as the spread is opened. The spread is also the support for other movable elements. For elements such as flaps, pull tabs, wheels, and other devices, the reader provides the kinetic energy.

The spread is basically a flat page folded into a V shape in either the middle of the page or at its sides. The pop-ups are activated by being positioned in exact mathematically predetermined ways on and around the fold. As the spread is opened, the pop-ups are pushed up and pulled out in different directions relative to the fold and, in very intricate pop-ups, to each other. Some of the pop-ups, such as in *Paper Blossoms* (Case Three), are extremely complex; each element is interlinked to create an entire paper flower bouquet. The paper used for the spread does not have be smooth. However, it does have to be strong and resilient. The paper for the three-dimensional pop-ups themselves is usually smooth, as a textured paper may interfere with the mechanism.

Some of the books and cards in the exhibition are designed with a slightly different pull-down spread mechanism. Instead of spreading the pages open, the reader pulls down one side of the spread. This side becomes the floor of the pop-up, while the opposite page stands up to become a backdrop. This is a very common design for Valentine's Day cards. The final effect is similar to a stage setting, within which there may be more moving elements.

The thickness of the spread paper and the pop-up elements attached to it all work to restrict the size of the book. There is no limit to how tall or wide a book can become, but there is a limit to the number of spreads within a book before it becomes too unwieldy to use or too expensive to publish.

Pull and push tabs require additional mechanisms. They are interactive reader-activated mechanisms. They can be wheels which the reader puts into motion, or a length of folded paper attached to another paper structure. The pull tab can be attached to a piece of string which then puts a third element in motion. The newly revealed pop-up elements may include raising a new three-dimensional pop-up or changes to an image cut within a frame in the spread. The action can cause an element to twirl or to move to a new position within the spread. Each pop-up mechanism is designed to bring the reader into the book through an immersive experience.

In recent years, changes and refinements in technology now allow the inclusion of more non-paper-based reader activated elements. For example, *Star Wars* (Case Three) has a battery-operated light sabre in the final spread which is activated by opening the

spread. The action activates a pull mechanism attached to a battery which lights up the sabre. Other movable books may contain battery-operated sound recordings, which are activated in a similar manner.

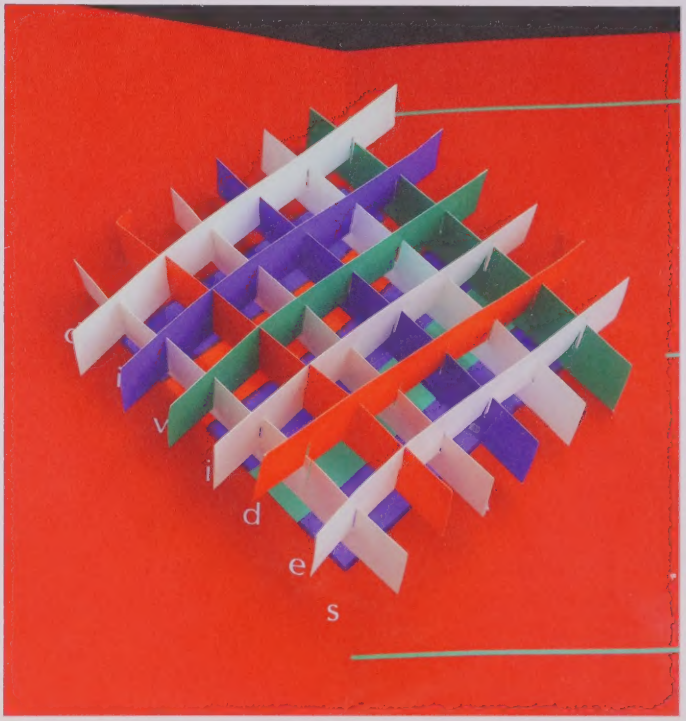
THE EXHIBITION

Case One of this exhibition provides a quick overview of movable books, beginning in 1653 with Claudius Dariott's work on astrology. Other books in the case include a how-to book on modern paper engineering, through to what has been considered the first 'modern' pop-up book, *The Haunted House,* published in 1979.

Subsequent cases feature pop-up versions of classic books, award winners for paper engineering, and the use of paper engineering in one-of-kind and limited-edition artists books. The exhibition then shifts from fiction to education with works discussing everything from the theory on how the universe and our Earth were created starting with the Big Bang to the evolution of life. The subsequent cases explore the physiology and psychology of humans, human exploratory aspirations, and finally the effects of humanity on Earth.

The cases in the Maclean Hunter Room of the Fisher Library have examples of movable books on a variety of subjects, including art, religion, ABCs, and Valentine's Day cards.

Scattered throughout the exhibition are a number of books which have earned the Meggendorfer Prize for Paper Engineering in Trade Books. The Meggendorfer Prizes are given out bi-annually by the Movable Book Society to honour outstanding work in designing and creating movable books. The prize is named after the German illustrator and paper engineer Lothar Meggendorfer. The first prize for paper engineering was given out 1998 and won by Robert Sabuda for *The Christmas Alphabet.*



Thus frail mortality of setting sun
Doth plainly show likewise of sands of run
Declare how sht a time man has on earth
Turn down youll see of near approach of death

Ere since of world began thus have I reign
Nor till its ending shall I be restraind
All men of ever livd submitted have
Early or late I send all to of grave

Behold in first line forward sins
Which wilful disobedience hath brought
When sickness hath inflicted what
Left up youl see hers death takes place of

CASE 1: INTRODUCTION TO MOVABLE BOOKS

[1] Claude Dariott. *Dariotus Redivivus: Or a Briefe Introduction Conducing to the Judgement of the Stars*. London: Printed for Andrew Keme, 1653.

Dariott was a French astrologer living in the sixteenth century. This work is an instruction book for the aspiring astrologer. The multi-layered volvelle, one of several in the work, acts as a pocket calculator for a practitioner calculating their client's horoscope.

[2] Robert Dodsley. *On Biblical Subjects: Poems, Histories, Meditations, Prayers*. England, early 18th century.

Little is known about Dodsley, who wrote *On Biblical Subjects* in and around 1700. He was reputedly a schoolmaster at the Free School in Mansfield, Nottinghamshire. The manuscript, inspired by medieval devotional manuscripts, is a collection of biblical stories, poems, and meditations. It is written in brown ink with watercolour illustrations. Throughout the work, the author uses illustrated flaps to further develop narrative elements within the biblical stories. The reader is invited into the narration as they lift the flaps to reveal new developments in the story.

[3] David A. Carter and James Diaz. *The Elements of Pop-Up: A Pop-Up Book for Aspiring Paper Engineers*. New York: Little Simon, 1999.

Carter and Diaz, both paper engineers for Intervisual, created the ultimate 'how-to' book on designing and creating pop-ups. Still in print well after its original 1999 publication, the work remains unique in its approach. It begins with a short history of movable books and a glossary of terms relating to the manufacture and elements of movable paper structures. Whereas most of the works on the subject use printed illustrations with samples that the reader can photocopy and construct, Carter and Diaz provide the actual examples that can be activated, along with explanations on why the structure works. Each construction is illustrated with a movable paper model, along with the technical terms related to the model, the specifications, and the mathematics critical for success. The samples also include instructions for the creation of noise makers, optical illusions, the use of wheels, and the various ways that pull tabs can be designed to create special effects. Each illustration has a textual explanation combined with a flap that opens to show the actual object or the behind-the-scenes construction. Almost every pop-up element that appears in this exhibition is illustrated in the work.

Additional credits: Assistant designer and illustrator: Luisa Bentley; photography by Keith Sutter; digital production art by Rick Morrison, White Heat Ltd.; created on an Apple Macintosh computer using Adobe Illustrator and Adobe Photoshop; produced by Intervisual Book, Santa Monica, CA; printed in Columbia, bound in Ecuador.

[4] Jan Pienkowski. *Haunted House*. Los Angeles: Intervisual Communications, 1979.

Pienkowski's *Haunted House* is often cited as the first 'modern' pop-up book. With sparse text, the reader becomes the protagonist, a doctor, as they roam through a house from room to room looking for their potential patient. The suspense builds as the reader is invited to interact with the spreads with pop-ups, pull tabs, and wheels. Along with elements that invite engagement, the format and the minimal text allows the reader to go back and forth through the book, creating their own experience and narration. *Haunted House* is credited with launching a new era of pop-up books that invite reader participation in the narrative through physical and temporal engagement with the illustrations. The book was printed and bound in Cali, Columbia, and won the Greenaway Medal for excellence in a children's book in 1979.

[5] Demi. *Cinderella on Wheels*. New York: Holt, Rinehart & Winston, 1982.

Cinderella on Wheels is not a traditional pop-up. For one, it does not pop up; rather, it is a phenakistiscope. The pages are a series of wheels with illustrations running around the edge of the wheel, which is also serrated with slits cut into the outer edge. The reader is asked to detach the wheel from the book and slip a pin in the hole punched into the centre. With the illustrations facing a mirror, the reader sets the wheel in motion while directing their gaze through the slits. The action puts the images in motion, allowing the reader to see the story through a moving image. There is no text. The work is an example of a rarely seen format which expands on the volvelle, breaking away from a wheel as a calculator and repurposing it as a mechanism for producing moving images.

I can't seem to settle down. In fact I can't
sit still for two minutes.

»Nein, Gretl, wir gehen nicht«, sagte Hänsel, »ich hab Angst!« »Du Dummerchen, was kann uns schon geschehen?« antwortete Gretl. »Komm nur, da drinnen können wir uns wenigstens wärmen, du bist ja schon ganz blaugefroren.« Hänsel widersprach nicht mehr. Sie betraten die Hütte. »Kommt nur, Kinderchen, kommt. Setzt euch an den Tisch, gleich bring ich Suppe«, begrüßte sie die Alte. Ach, die Suppe duftete so schön! Und all die anderen Leckerbissen, die Hänsel und Gretl da bekamen! Sie blickten sich in der Stube um, und alles kam ihnen so anders, so merkwürdig vor. In der Ecke stand ein Ofen, und der war ganz aus Backwerk. Und da in der Truhe schimmerten leuchtende Edelsteine! Ein seltsames Häuschen!

[6] Vojtěch Kubašta. *Hänsel und Gretl.* Prague: Artia, 1959.

While pop-up books were published in the early twentieth century, the format languished until the 1950s when Kubašta, a Czechoslovakian architect, civil engineer, artist, and paper engineer, created for the Prague-based publisher Artia a number of pop-up children's books. Artia trained the staff to assemble the books and distributed them worldwide in seventeen languages, including English. The books were a success, and soon publishers from other countries started to commission works and explore creating and publishing their own pop-ups. For the most part, Kubašta created very simple works with stage-like pull down pop-ups, along with some reader-activated elements. In *Hänsel und Gretl*, pull-down pages create the stage for the action in the story, while pull tabs within the pages reveal the witch, make the father's arm chop down a wooden branch, and allow the reader to help Hansel and Gretel push the witch into the furnace.

←MOVE→

CASE 2: CLASSIC BOOKS REINTERPRETED THROUGH POP-UPS

Since the development of the movable book medium, numerous pop-up books have been published illustrating beloved classical books, poems, and stories. At first, most of these works were aimed at very young audiences. In the later twentieth century, the perception of the audience for movable books expanded to mature readers. With these older readers in mind, the classical stories selected become darker and more challenging—it is no longer necessary to publish a brightly coloured book with prominent visible text. To reflect the sometimes-darker subject matter, the illustrations are often drawn in monochromes, with blacks and greys dominating and spreads that could be described as aggressive and challenging to the reader. The text is also affected: it moves from being an equal partner visibly with the illustrations to almost being eliminated in the main spread. If there is any text, it is relegated to brief narrations in the side booklets, which frequently also contain additional pop-ups.

[7] Julian Wehr. *The Animated Picture Book of Alice In Wonderland*. New York: Grosset and Dunlap, 1945.

In this abbreviated version of the classic Lewis Carroll story of *Alice's Adventures in Wonderland*, illustrated and animated by Wehr, the reader is invited to animate and engage physically with the story. Pull tabs bring the images alive and the reader becomes a participant in the story telling. The pull tabs often reveal a part of the story that is not fully described in the accompanying text. In many ways the book is structured like a multidimensional graphic novel, encouraging the reader to engage with the story on many levels.

[8] Lisa Rojany-Buccieri. *Walt Disney's Alice in Wonderland: Down the Rabbit Hole*. New York: Disney Press, 1994.

Based on Walt Disney's animated version of *Alice in Wonderland*, the book is intended as both a story book and a teaching tool for a young audience just learning to read. Adapted by Rojany-Buccieri, the majority of the book contains text and illustrations derived from the Disney film interspersed with small flaps with words printed on the front. When the flaps are lifted, the object named is illustrated. Five spreads contain pop-ups activated with pull mechanisms: some are activated automatically by the opening the spread and others invite the reader to pull a tab to reveal

the images. The final spread features a pull tab that makes the Cheshire Cat appear and disappear.

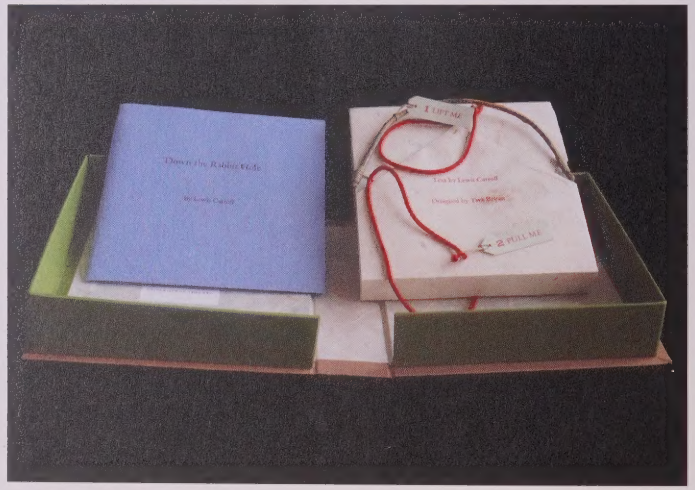
Additional credits: Designed by Suzanne Ferguson; illustrated by Robbin Cuddy; paper engineering by Jose R. Seminarino; produced by Intervisual Books, Santa Monica, CA; printed and bound in Thailand.

[9] Robert Sabuda. *Alice's Adventures in Wonderland. A Pop-Up Adaptation of Lewis Carroll's Original Tale.* New York: Little Simon, 2003.

Sabuda's version of *Alice's Adventures in Wonderland* honours the original John Tenniel illustrations from the first Alice publications, modifying them to amplify the images over the text. It is the most complex and dense of the Alice versions on display. Every spread has multiple pop-ups, and on each side of the main spread there are smaller spreads/booklets containing text and additional small pop-ups. The book is a three-dimensional work, and the pop-up images can be seen from all sides. The images printed on the back are another view of the object depicted in the front. A small tunnel book is used to depict Alice falling through the rabbit hole. Manufactured in China, this publication is specifically marketed as 'Classic Collectible Pop-Up'.

[10] Tara Bryan. *Down the Rabbit Hole.* Flatrock, NL: Walking Bird Press, 2016.

The American-born Bryan, who moved and settled in Newfoundland in 1992, was an artist who enjoyed playing with the form and the structure of the book. This tunnel book, created to commemorate the centenary of Lewis Carroll's birth, literally tries to recreate the experience of Alice falling down the rabbit hole. The 'leaves' are boards containing the text that are die-cut with a square hole in the centre. The reader is directed by small tags attached to the top of the book to both 'lift me' and 'pull me'—thus, the book is actively engaging the reader to be part of the experience. The sides of the book are printed using colourful handmade Japanese Kiritsubo paper.



Either the well was very deep
or she fell very slowly
thump!
thump!
The fall was over.
LIFT ME
PULL ME

[11] Edgar Allen Poe. *The Raven: A Spectacular Presentation of Poe's Haunting Masterpiece.* New York: Abrams, 2016.

As with Sabuda's *Alice*, the poem by Poe is told foremost through images. An almost unnoticeable flap, indicated by discreet triangle on either to the left or to the right side of the spread at the bottom of the page, contains the text. Christopher Wornell's illustrations are dark and graphic. The background illustrations and the pop-ups are constructed to convey the poem's mood of threat, paranoia, danger, and claustrophobia. David Pelham's pop-ups vary from simple to increasingly complex, and the book culminates in a spread of an ominous storm battering an isolated mansion.

[12] Bram Stoker. *Pop-Up Dracula.* London: Walker Books, 2009.

In this pop-up graphic novel, the large-scale pop-ups, created by David Hancock, dominate the spreads and the narration. The text, further ancillary illustrations, and small pop-ups are concealed under the flaps on either side of the spread. The work pares the narration down to its basic and most direct form. As the story progresses, the pop-ups become more animated, culminating in the hero driving a stake through Dracula's heart.

Additional credits: Art: Anthony Williams; story: Claire Brampton; Graphic Pops: A Pop-up Classic; Printed in Thailand.

CASE 3: THE MEGGENDORFER PRIZE WINNERS

The Movable Book Society has awarded prizes for Best Paper Engineering—Trade Edition biennially since 1998. It also awards additional prizes for Best Artist Book and Emerging Paper Engineer. This case showcases five of the most recent winners currently available. Other Meggendorfer prize-winning books are scattered throughout the exhibition, as are additional works by the paper engineers who have won the prize in the past.

[13] Frank L. Baum. *The Wizard of Oz: A Commemorative Pop-Up.* New York: Little Simon, 2000.

Winner of the 2002 Meggendorfer Prize, Robert Sabuda's interpretation of *The Wizard of Oz* commemorates the hundredth anniversary of the publication of Baum's classic novel. The artwork is based on W.W. Denslow's original illustrations, and Sabuda fully animates the images using almost every paper engineering device that paper can be manipulated into. Cyclones twirl, buildings pop-up, people emerge as the pages open, flowers spring open as birds take flight, and balloons and cards fly. To bring the reader further into the story, a pair of green-coloured spectacles is provided when the scenes shift to Oz. The textual narration is told within the flaps/booklets on the sides of the spreads. These may contain additional pop-ups that invite the reader to explore further. In the final booklet the reader sees Dorothy clapping her ruby slippers and embracing her aunt. The book, published as part of the Classic Collectible Pop-Up series, was printed in Columbia and hand-assembled in Ecuador.

[14] Matthew Reinhart. *Star Wars: A Pop-Up Guide to the Galaxy.* New York: Orchard Books/Scholastic Inc., 2007.

Reinhart's Meggendorfer Prize winner from 2008 is an extremely dense exploration of the *Star Wars* galaxy. Every inch of the spreads contain layers of illustration and text. Often, there are pop-ups within pop-ups. Hidden in the last spread is Luke Skywalker brandishing a battery-operated light sabre. Each spread forces the reader to linger and explore the galaxy, its history, technology, and inhabitants, both human and alien.

[15] Matthew Reinhart. *Transformers: The Ultimate Pop-Up Universe.* New York: Little, Brown & Company, 2013.

Reinhart returns to a movie-based world with *Transformers,* the 2014 Meggendorfer Prize winner. Although the book is not as information dense as *Star Wars,* it contains layer upon layer of text and illustration, as with most of Reinhart's works. True to the title and theme, the pop-ups are animated and transformed either through the opening mechanism of the spread or through pull tabs. Vehicles transform into other living entities, and robots transform themselves into new creatures. A spectacular example is the domed building construction. When the tab is pulled, the dome folds back to reveal an entire hidden-covered city. The work is remarkable, but it also illustrates the vulnerabilities of the use, and perhaps overuse, of paper mechanism and constructions. The pull tabs for the smaller transformations work well, but the larger constructs are more difficult to transform, often risking the pop-up construction or the paper mechanism. The art is credited to Emilicino Santalucia, and the book was manufactured in Thailand.

[16] *Zahhak: The Legend of the Serpent King: From Shahnameh by Ferdowski.* Seattle: Fantagraphic Books, 2017.

The story of Zahhak, the murderous three-headed serpent ruler of Persia, is based on the epic poem *Shahnameh* written in the tenth century by Abolqasem Ferdowski. The story has influenced numerous computer games and spawned this spectacular pop-up book, which won the Meggendorfer Prize in 2018. The illustrations are based on traditional Persian paintings and are three dimensional, each having a front and back image. The paper engineering is complex, multi-layered, and features additional devices such as rotating discs and pull tabs. The illustrations often fold out to go beyond the spread. The story is told mainly through the pop-ups animated by the spread, with side booklets containing the text as well as more pop-ups. The art and design are by Hamed Rahmanian, and the paper engineering is credited to Simon Arizpe. The book was printed in Malaysia.

[17] Ray Marshall. *Paper Blossoms: A Book of Beautiful Bouquets for the Table.* San Francisco: Chronicle Books, 2010.

Paper Blossoms is the first of a series of three pop-up books that are meant to become dinner table decoration, room accents, or a conversation piece. There is no intent to create a narrative linking the individual spreads. The floral arrangements are large and structurally complex—they are an explosion of colour and shapes. This is balanced by the use of simple direct colours on the individual flowers and leaves. It is a celebration of plants and of the ability to create very complex three-dimensional sculptures through paper engineering. Paper engineered by Marshall with design by Amy E. Achaibore, it was awarded the Meggendorfer Prize in 2012.

CASE 4: ARTIST BOOKS

Limited edition artist books have pushed the definition of what constitutes a book, often by subverting the traditional structure. Broadly, the artists in the exhibition define a book as a structure that has a cover which opens to reveal content. The entire book may be a single pop-up structure to be seen in its entirety. These works include accordion books and tunnel books. This case also contains a series of one-spread pamphlets, and a book within a box which contains other structures. The content may or may not have narration or text. The works are meant to challenge conventions. Abstract movable sculptures may pop-up. Some have linking narrations, others deliberately do not.

[18] David A. Carter. *One Red Dot*. London: Tate Publishing, 2008.

A meditation on the potential of kinetic paper sculpture art through paper engineering, *One Red Dot* is the first of the series by Carter of colour-themed works that explore the use of paper and the book structure to create pieces of non-representative abstract art. The very minimal text was written after the individual spreads were created. The sole narration merely urges the reader to find the red dot in each piece. Other than this directive, there is no further narrative. It was awarded the Meggendorfer Prize for Paper Engineering in 2006.

[19] Maryline Poole Adams. *The Two Brothers: A Peep-Show*. Berkeley, CA: Poole Press, 1994.

Illustrated and printed letterpress by Adams, the format of *The Two Brothers* is a tunnel book which uses the accordion-folded sides to create a stage-like space within the resulting tunnel. The small book invites the reader into a three-dimensional snapshot of the events in Lewis Carroll's poetic parody. The complete poem is included in a booklet on the verso page. Sixty-five copies were produced, of which this is copy five.

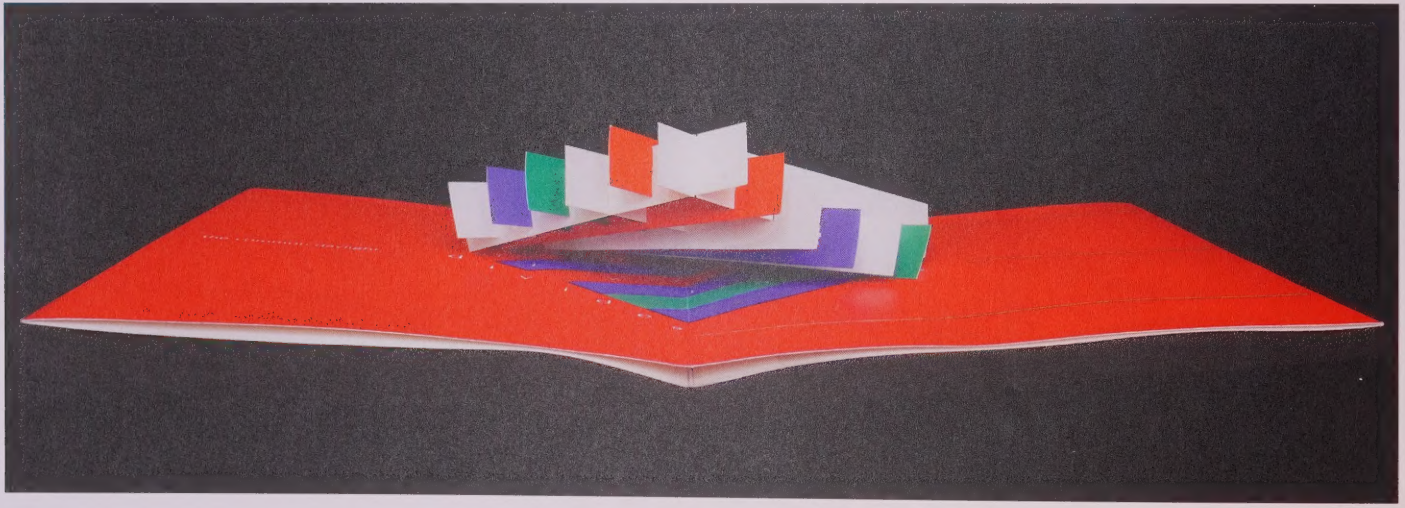
[20] Paul Johnson. *The Tree House of Time*. Cheadle Holme, England: The Book Art Project, 2005.

Hand constructed and illustrated by book artist Paul Johnson, the treehouse is built from interlocking paper pieces that rise into a complex structure when the one-spread book is opened. The text is inscribed on the tree. This is a redesigned second edition; the first edition was issued in 2004. It was laser printed on ninety-pound paper, was hand assembled, and features hand colouring by the author. Johnson is a Meggendorfer Prize winner in 2021 for the artist book *The Lemon Tree*.

[21] Ron King. *Bluebeard's Castle*. Guildford, England: Circle Press Publications, 1972.

This version of *Bluebeard's Castle* is inspired by Béla Bartók's opera. The recently married wife of an ominous nobleman discovers that she is the latest addition to a long line of previously deceased wives. The work follows Bluebeard and his new wife through the halls of his castle as they open each of the seven doors. The often-ambiguous text and images echo the voices of Bluebeard's previous wives coming from the rooms. The paper sculptures are individually abstract, each connected to the other through the overarching narrative.

Additional credits: Pop-up designs conceived and produced by King; verses written by Roy Fisher; printing by Tony Tombs under the direction of the artist; cutting, typesetting, and construction have been carried out at Circle Press; design for the bound versions worked out in consultation with Roy Salter of Bath Academy of Art.



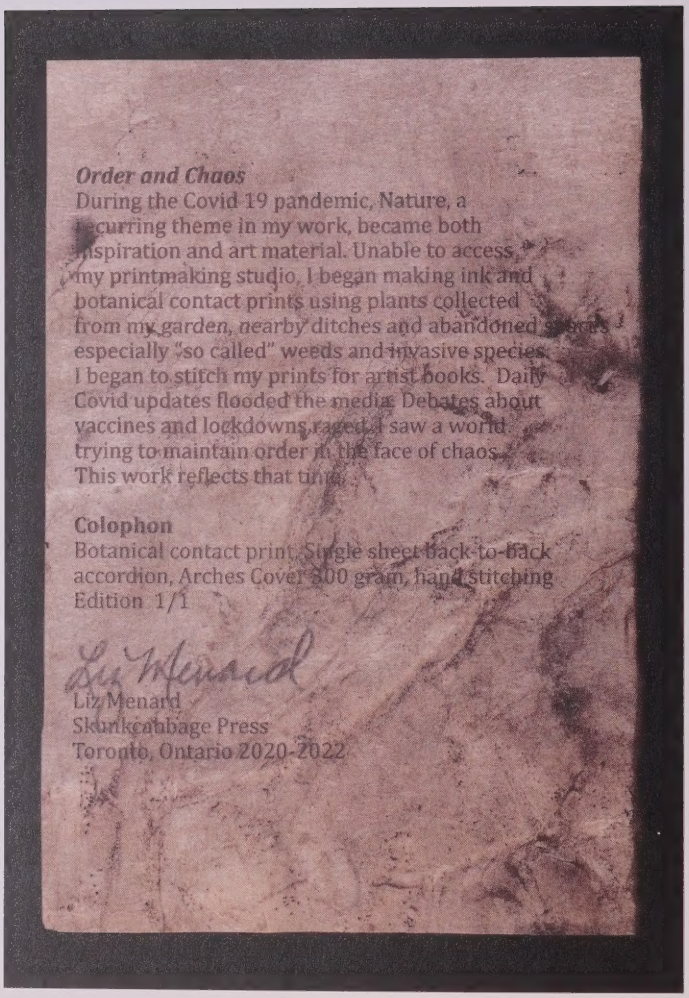
the common daylight

[22] Liz Menard. *Order and Chaos*. Toronto: Skunkcabbage Press, 2023.

Nature is a recurring theme in the work of Toronto-based artist and printmaker Menard. It became both inspiration and fodder for her art during the COVID-19 pandemic. Unable to access her printmaking studio, she started making ink and natural dyes, with a focus on local materials. As she writes in her artist's statement on *Order and Chaos*: 'I collected plants from my garden, roadside ditches and abandoned urban lots—especially "so-called" weeds and invasive species. These became inks and materials for my botanical contact prints'. It became a series of artists' books.

> These works reflect a time when our world was struggling to maintain order in the face of pandemic chaos. Once I created the prints, I began to play with structure and then started to stitch the prints. Although I thought my stitching was responding to the botanical materials, I realized that the debates about masking, vaccines, and lockdowns found their way into the work. Some of the stitching resembled the graphs and charts we were bombarded with in the media while other stitching was more fanciful representing my desire to return to pre-pandemic life. While not always possible, I cautiously felt optimistic about nature and resiliency in the natural world.

The book is a cloth-bound double-accordion botanical contact print on Arches Rag paper with hand stitching.


Order and Chaos
During the Covid 19 pandemic, Nature, a
curring theme in my work, became both
inspiration and art material. Unable to access
my printmaking studio, I began making ink and
botanical contact prints using plants collected
from my garden, nearby ditches and abandoned
especially "so called" weeds and invasive species.
I began to stitch my prints for artist books. Daily
Covid updates flooded the media. Debates about
vaccines and lockdowns raged. I saw a world
trying to maintain order in the face of chaos.
This work reflects that time.
Colophon
Botanical contact print, Single sheet back-to-back
accordion, Arches Cover 300 grain, hand stitching
Edition 1/1
Liz Menard
Liz Menard
Skunkcabbage Press
Toronto, Ontario 2020-2022

[23] Barbara Hodgson and Claudia Cohen.
***Folding Paper.* Vancouver: HM Editions, 2017.**

This work is a celebration of paper and the many ways that it can be pushed, pulled, cut, and reformed from a flat structure into endless new possibilities of form, surface, and uses. Designed by Hodgson, who also folded the specimens from a variety of different papers, this is not a work about pop-ups, but a demonstration of pop-up's roots. A brief introduction to folding techniques and design is followed by chapters on the applications and further iterations of folded paper. There are folded samples of each of the two-dimensional structures. The entire work is encased in a custom-made box, which also holds three-dimensional structures. David Clifford at Black Stone Press in Vancouver printed the text, and Cohen bound each copy in her Seattle studio. The Fisher's copy is number nineteen of thirty numbered copies.

CASE 5: THE FOUNDING OF THE UNIVERSE TO LIFE ON EARTH

The books in this case look at the world that humans inhabit, its evolution, and other inhabitants.

[24] Shawn Sheehy. *Welcome to the Neighborwood.* Somerville, MA: Candlewick Press, 2015.

An elegant three-dimensional work on the homes built by various animals including birds, snails, insects, mammals, and fish. The text is spare and direct, and the use of handmade paper collages gives the work the look of a one-of-a-kind artist book. The pop-up paper sculptures are in themselves complete as paper engineer Sheehy does not use pull tabs or flaps to add to the narrative. This book, printed in Thailand, was awarded the Meggendorfer Prize for Paper Engineering in 2016.

A honeybee's size varies depending on her job, but on average she's about the size of a raisin.
Honeybee
Home Sweet Home
Honeybee builds her hive with beeswax. She makes the wax inside her body but must chew it and soften it before she can begin building. Her hive is built of layers called combs. A comb is made of hundreds of six-sided rooms called cells. Each cell holds pollen, honey, or an egg.
Honeybee makes honey from nectar. Her neighbor has an appetite for nectar too. . . .

Neighbors

[25] Neal Layton. *The Story of Everything: From the Big Bang Until Now in Eleven Pop-Up Spreads*. London: Hodder Children's Books, 2006.

Layton's ride through history takes the reader on a journey that begins with the Big Bang that created the universe, to the evolution of the stars and earth, the beginning of life in the sea and on land, and evolution of human beings. The book ends in the Anthropocene era as human activity changes the earth. The journey features pop-ups, pull tabs, and flaps, as well as text that informs the reader and pokes gentle fun at the events and characters illustrated. The paper engineering is by Corina Fletcher, and the book was printed in Malaysia.

[26] Robert Sabuda and Matthew Reinhart. *Encyclopedia Prehistorica*. Cambridge, MA: Candlewick Press, 2005.

A joint venture by Sabuda and Reinhart, *Encyclopedia Prehistorica* recreates in paper sculpture three-dimensional pop-ups of more than thirty-five dinosaurs and other creatures that lived during the Triassic and Jurassic eras. The colourful illustrations are cut from painted paper collages to reveal reconstructions of animals, for which we only have skeletal remains. The accompanying text takes the reader through the processes that archeologists use to reconstruct the animals, their original environments, and their possible lives. The book was manufactured in Taiwan.

[27] Ernst Haeckel and Maike Biederstadt. *Creatures of the Deep: The Pop-Up Book*. Munich: Prestel, 2016.

Multi-disciplinary German professor and Darwinist Haeckel wrote extensively on zoology. *Creatures of the Deep*, conceived by award-winning illustrator and paper engineer Biederstadt, is derived from Haeckel's own meticulous drawings, often made using a microscope, of animals and creatures in *Kunstformen der Natur* (Art Forms of Nature), originally published in 1904. As in the original plates, there is no text within the spreads, only the illustrations of the creatures. Each page reproduces a page from the original book, with some of the creatures recreated in three-dimensional form through paper sculpture. Notes printed on the end pages identify the creatures shown in the spreads. The book was printed and bound by Tien Wah Press in Malaysia.

[28] *Creatures of the Desert World: A National Geographic Action Book*. Washington, DC: National Geographic Society, 1987.

As the title indicates, this work uses pop-ups to create an action book about desert life. There is text, but it is minimal and restrained. The focus is on the images that arise as the spreads open, and on the movement created when the reader pulls the tabs.

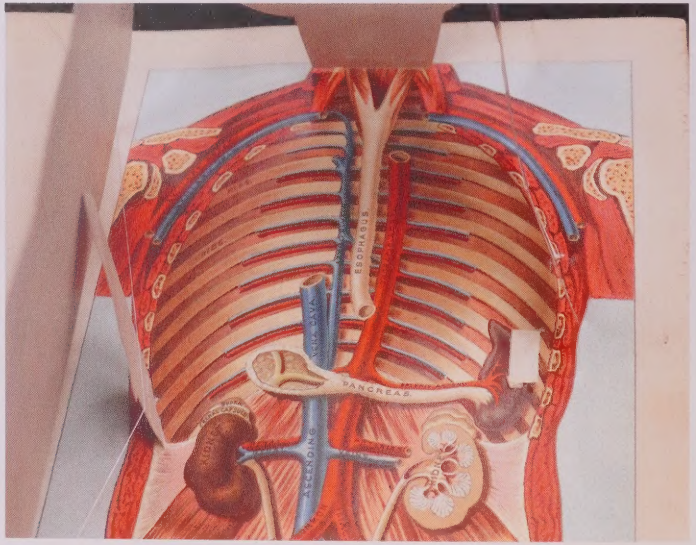
Additional credits: Illustrator: Barbara Gibson; art director: Jody Bold; paper engineers: John Strejan and James Roger Diaz; printed and bound in Columbia by Carvajal for Intervisual Communications.

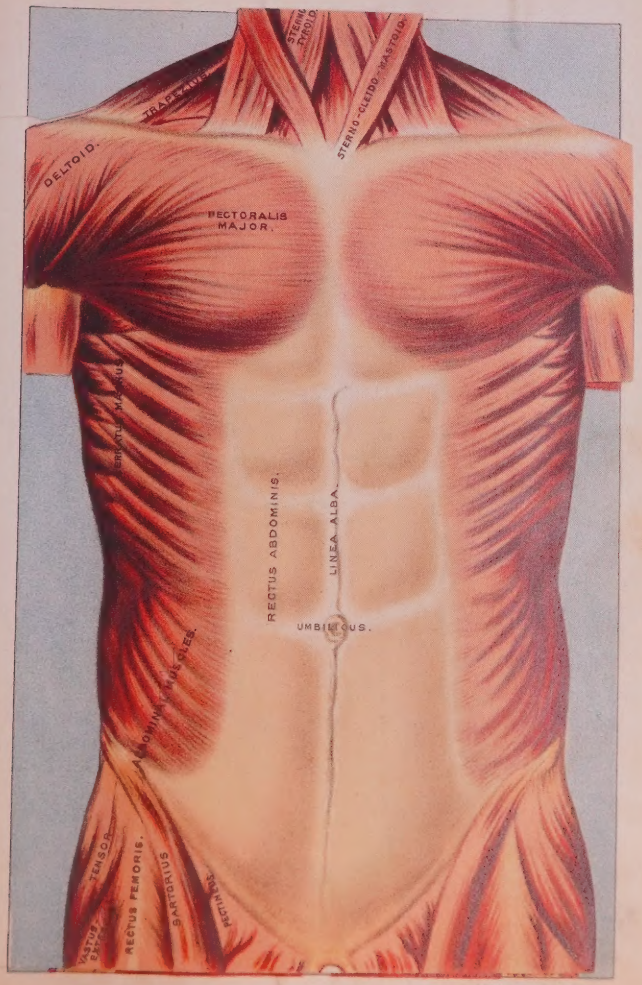
CASE 6: HUMANS—THEIR PHYSIOLOGY, PHOBIAS, AND CONCERNS

The use of layered flaps in medical books to demonstrate the functions of the human body has a long history, dating back centuries. Jonathan Miller and David Pelham's books are more recent examples that use movable pop-up structures to illustrate anatomy. While psychology is difficult to visually depict, *The Pop-Up Book of Phobias's* three-dimensional pop-ups and claustrophobic illustrations deftly manages it. The last book in the case examines the trauma of revealing one's sexuality, while providing a guide and information on resources on how to do so.

[29] *Revised Edition of The Practical Home Physician and Encyclopedia of Medicine: A Guide for the Household Management of Diseased.* Guelph, ON: World Publishing Co., 189- .

This huge, dense volume of over 1,300 pages is intended to provide medical information for the ordinary householder, as well as a quick reference for the practicing physician. The work covers everything from physiology, disease identification, possible treatments, medications that can be made at home or purchased, poisons, and how to provide care for the ill and injured. The majority of the work is text interspersed with relevant illustrations in both black and white and colour. The illustrations range from anatomical depictions to drawings of plants, both poisonous or used as medications. The authors use overlaid coloured flaps to portray the human male torso and the head. The illustrations show the organs, as well as the circulatory and nerve systems. The flap illustrations for the human head include illustrations of sections of the the brain that are responsible for various thought processes.




DELTOID.
PECTORALIS MAJOR.
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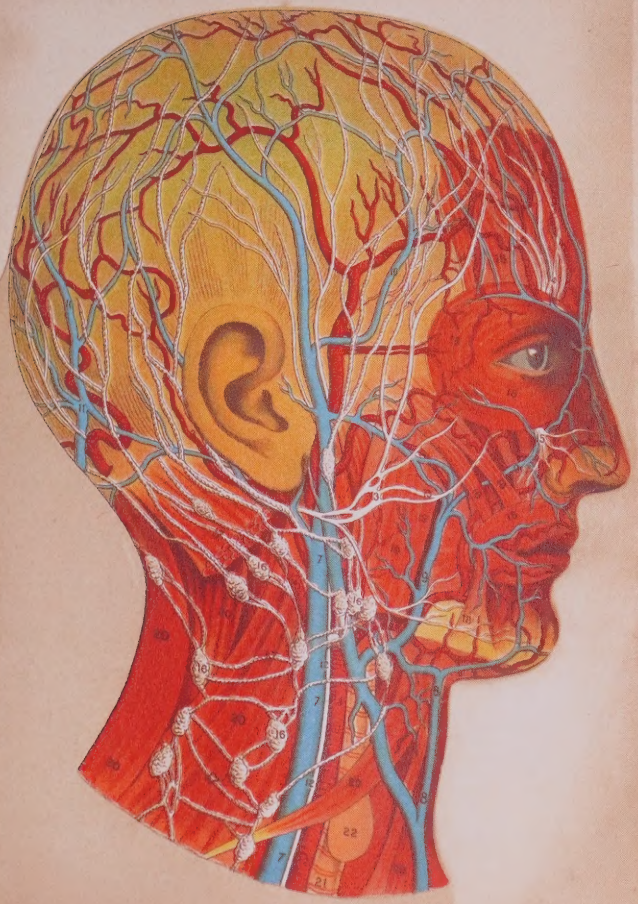

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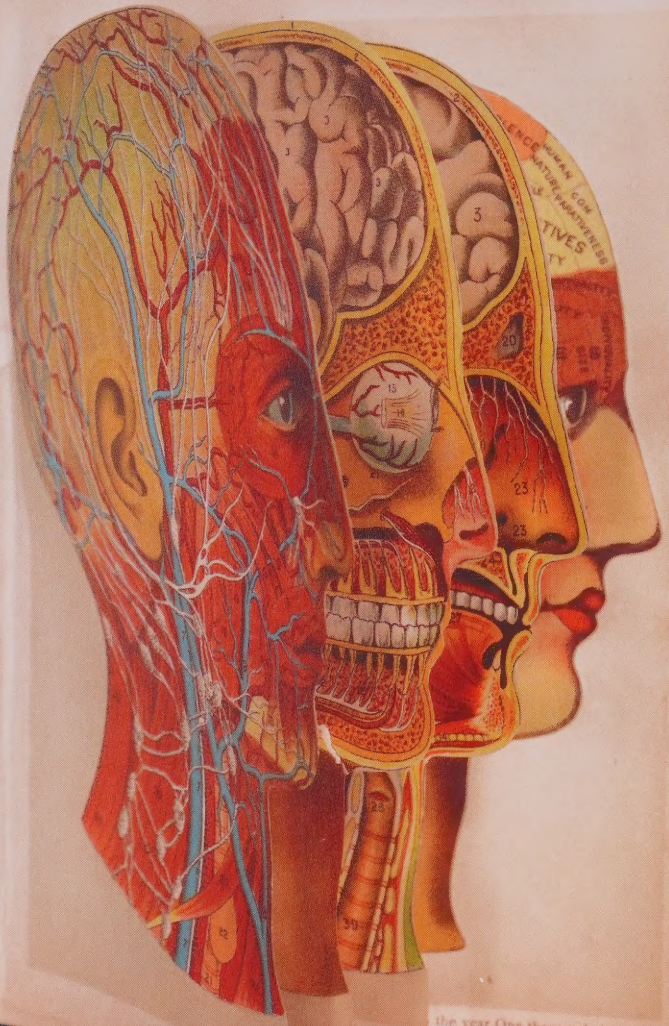


the year One thousand eight
e Department of Agriculture.

[30] Jonathan Miller and David Pelham. *The Human Body: A Three-Dimensional Study.* London: J. Cape, 1983.

Miller and Pelham take what would have been considered a frivolous medium—pop-up—and created a serious teaching aid on human physiology. The book is directed at a general reader, and is designed to be three dimensional and interactive. Using the pop-up mechanisms, the reader can make the lungs breath and the muscles contract. The text is by Miller, who was an author, actor, theatre director, and physician. It is direct and and clinical, using the correct medical terminology for the aspects and processes within the human body. The book was designed by Pelham and illustrated by Harry Willcock, with paper engineering by Vic Duppa-Whyte and David Rosendale.

[31] Omid Razavi. *Let Me Out!: A Pop-Out About Coming Out.* Toronto: Bounce Creative Inc., 2018.

Let Me Out! aims to assist and encourage young people through the often-difficult process of revealing and openly discussing their sexuality with their family, friends, and community. The text is spare and the pop-ups are primarily simple, with interactive elements such as pull-tabs and flaps. The end pages provide further information and resources available to the reader and their families. The paper engineering is by Tito Perilla.

[32] Jonathan Miller and David Pelham. *The Facts of Life: A Three-Dimensional Study.* London, J. Cape Limited, 1984.

The Facts of Life follows up on Miller and Pelham's *The Human Body.* The work describes and illustrates the human reproductive system from conception to the birth of the child. Miller's text in this work is similarly forthright and clear, but not overly clinical. The pop-ups are three dimensional and direct. As in the previous book there are interactive elements. This book was also illustrated by Willock, with paper engineering by John Strejan, James Diaz, David Rosendale, and Pelham.

[33] Gary Greenberg. *The Pop-Up Book of Phobias.* New York: Harper Collins, 1999.

Written by comedian Greenberg and primarily illustrated by author Balvis Rubess, who is known for his disquieting illustrations, with animation by Matthew Reinhart, the work manages to be both funny and convincingly frightening, without mocking the subject or the reader as their worst fears rise up from the spread to confront them.

CASE 7: HUMANS EXPLORE THE WORLD AND BEYOND

Humans have always shown a desire to explore their surroundings, as well as travel to new lands both on Earth and beyond. The books in this case include works with mechanisms that allow the reader to calculate time and position while traveling in ships and gather information from space probes, and works describing the history of reaching out beyond the Earth in rockets.

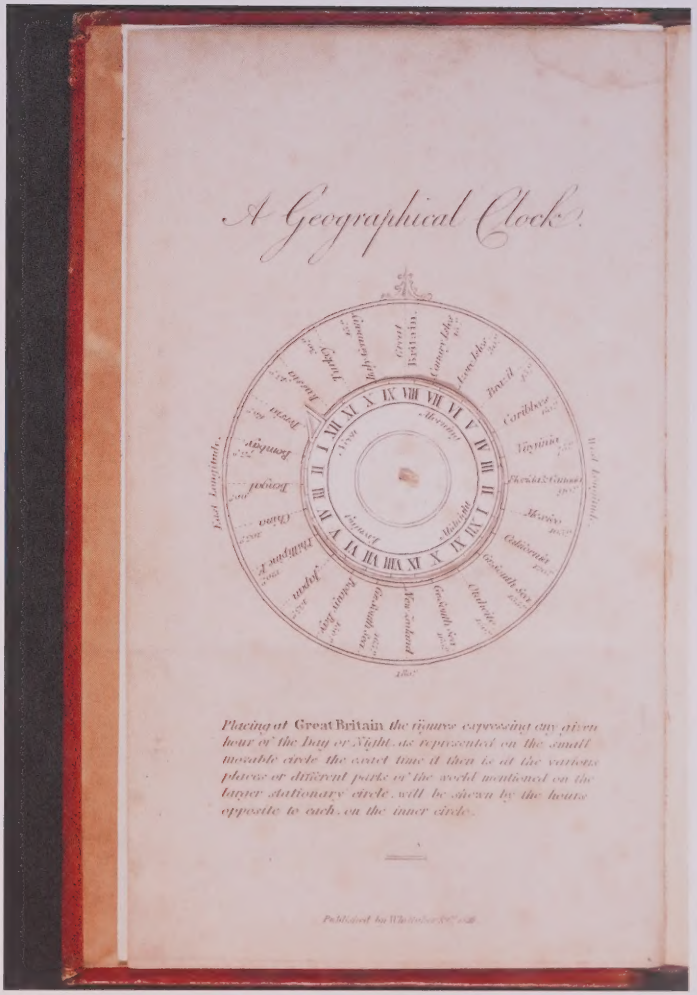
[34] Johannes de Sacrobosco. *Sphaera Ioannis de Sacro Bosco.* Lyon: Heirs of Jacopo Giunta, 1567.

Sacrobosco's book was originally written around 1230 as a meditation on the Ptolemaic spherical universe. The work uses the Hindu Arabic numeral system, which had been introduced to Europe just a short time before. In the ensuing years, it became a standard text used in European universities for over 400 years. The small copy housed at the Fisher is bound in vellum and is annotated. It is also extensively illustrated. There are three volvelles which are used to calculate time, an operation vital for

travellers and navigators trying to determine their location. Two of the volvelles are damaged, but one is still intact. The intact volvelle allows the operator to calculate time for navigation. Close examination of the front cover reveals barely visible inscribed circles and a centre pin hole: it is possible an additional volvelle was also mounted on the cover.

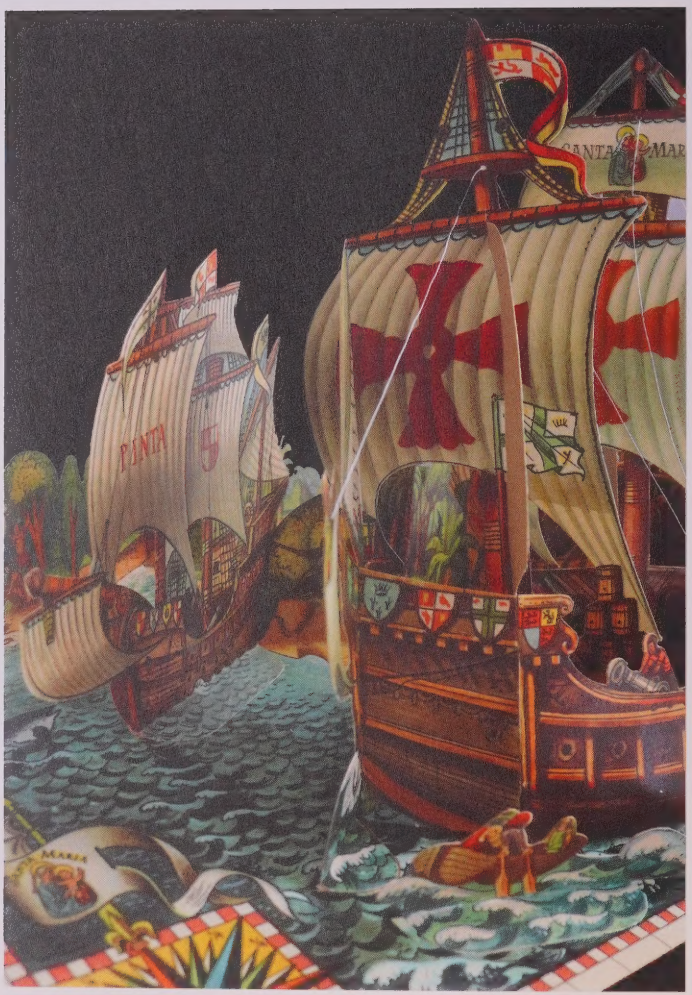
[35] Thomas Molineux. *A Concise Introduction to the Knowledge of the Globes; with Problems, Examples and a Series of Occasional Exercises Comprising an Epitome of Modern Geography.* London: Longeman, Ornae and Co., 1839.

Thomas Molineux was a teacher of mathematics at the Grammar School in Macclesfield, England. At the time, grammar schools were preparatory schools for university entrance; as such, this work was intended to be a teaching aid and textbook in the uses and purposes of globes. The simple volvelle in the front of the book allows the reader to calculate the present time of other world locations relative to the noon hour in London.


A Geographical Clock.
Placing at Great Britain the figure expressing any given hour of the Day or Night, as represented on the small moveable circle, the exact time it then is at the various places or different parts of the world mentioned on the larger stationary circle, will be shewn by the hours opposite to each, on the inner circle.

[36] Vojtěch Kubašta. *How Columbus Discovered America*. London: Bancroft & Co., 1961.

Vojtěch Kubašta's books were a worldwide success by 1960, and many publishers including Britain's Bancroft and Co., made arrangements with Artia in Prague to produce works for them. The arrangement took advantage of Artia's facilities and trained workforce to create handmade books, and allowed the publisher to commission a wide range of works. *How Columbus Discovered America*, printed in Czechoslovakia, is in two parts: an English-language booklet telling the story of Christopher Columbus and his discoveries, and an attached three-dimensional one-sided pop-up spread depicting the first voyage of the ships *Niña*, *Pinta* and *Santa Maria*. The cover features a volvelle—when the wheel is turned, it traces the ships' routes from August 1492 to March 1493. Kubašta signed the illustrations in this book but is not otherwise credited.



SANTA MARIA
PINTA
SANTA MARIA

[37] Patrick Moore and Heather Cooper. *Halley's Comet*. New York: Bonanza Pop-Up Books, 1985.

Published just before the *Giotto* space probe was scheduled to be launched in July 1985 to observe Halley's Comet, this book explores the science and the history of the comet, whose sighting was first documented in 240 BCE. It conveys the history of the comet and the impending launch of the probe through text, pop-ups, and interactive pull-tabs, as well as a film strip that can be inserted in a fully three-dimensional pop-up telescope.

Additional credits: Illustrated by Paul Doherty; paper engineering by Vic Duppa-Whyte; printed and bound in Cali, Columbia, by Carvajal.

[38] Anton Radevsky. *The Pop-Up Book of Space Craft*. Bulgaria: Könemann: Verlagsgesellschaft, 2000.

The Pop-Up Book of Space Craft is an interactive look at the history of various space crafts designed and launched before the year 2000. The work describes American manned and unmanned vessels dating from 1975, as well as a European rocket. The book ends with a description of the various vehicles designed to explore Mars in the late twentieth century. Throughout the book, the reader is invited to not only activate the pop-ups, but also, in some cases, assemble them. Radevsky is the author, illustrator, book designer, and paper engineer.

Additional credits: The book was created by the Kibea Publishing Company, Sophia, Bulgaria; printed in Cali, Columbia by Carvajal/Cargraphic S.A., and assembled in Ecuador.

CASE 8: TERRORISM, DESTRUCTION, AND HOPE

The evolution of the toy and movable object over the last two centuries has been a movement away from books intended solely for children to books that aim to entertain readers of all ages, as well as books that aim to instruct and deal with serious twenty-first century issues, including terrorism, the destruction of the biosphere, and possible extinction due to human-triggered climate change. Two of the books—on clearcutting and the sixth extinction—are the most hopeful. Both postulate a world that heals itself either through human intervention or by the resilience of the natural world.

[39] Werner Pfeiffer. *Out of the Sky: Remembering 911.* Red Hook, New York: Pear Whistle Press, 2006.

The German artist Pfeiffer conceived, produced, and bound this book in memory of the victims of the terrorist attack on New York City on 11 September 2001. Housed in three purpose-built trays and rising almost five feet, the two towers of the World Trade Centre are reconstructed through stacked interlocking two-ply museum board supports. The buildings are covered with paper walls printed with stark black-and-white woodcut images, depicting the victims and the horror and the hopelessness of the collapse of the twin towers. The images are printed on white Stonehenge 240-pound paper. Of the fifty-three copies produced by Pfeiffer, the Fisher's copy is numbered eighteen.

[40] Anouck Boisrobert and Louis Rigaud. *In the Forest.* London: Tate, 2012.

In the Forest takes the reader on a journey: from a lush vibrant tropical forest full of all manner of plants and animals, to the destruction of the entire ecosystem by clear cutting, and back again as life is reintroduced to the forest through the efforts of a single man with a dream of restoring the past. The pop-ups are simple yet dramatic. The reader activates the destruction of the forest by turning the interconnected cut-out pages, and then assists in its rebirth by pulling a tab that animates the new plants. The end page reanimates the reborn forest as it once again is full of life. The text is sparse and precise, with the images most prominent. The story, by Sophie Strady, was first published in French in 2011 as 'Dans la forêt du paresseux'. Printed in China with environmentally friendly soy ink and on responsibly sourced paper.

[41] Shawn Sheehy. *Beyond the Sixth Extinction: A Post-Apocalyptic Pop-Up.* Somerville, MA: Candlewick Studio, 2018.

The work, set in the year 4847 CE, is an examination of the species that evolved after the sixth historical extinction as documented in the area around the district of Cago, southwest of Lake Mishkin. The life forms that have survived and evolved have done so by adapting to their new environments. Examples include those that survive by adapting to the formerly toxic ecosystems and transforming them into biological nutrients. A bloodworm shifts phases from a grub to a plant, and back again when resources become available. Other life forms adapt to break plastic into nutrients. Through the names of the persons documenting the new creatures, we know that some form of human life has survived. Author and paper engineer Sheey explains that he is imagining a living world decimated by human activity and yet is resilient enough to be able to evolve new creatures that can thrive in the toxic environment. The book, illustrated in sombre colours by Jodi Solano, alternates full two-page three-dimensional pop-up spreads with two-page spreads of descriptive text and illustrations. The pop-ups of the animals are further pared down into flat browns, muted yellows, and reds. On each pop-up page there are side panels covered with flaps that provide basic information on the life forms depicted. It was manufactured in Thailand.

[42] Owen Davey. *my first POP-UP 'Endangered Animals.* Somerville, Massachusetts: Candlewick Studio, 2023.

Owen Davey's book is an introduction for very young children to animal species who are in danger of becoming extinct. The work is an elegant book with simple illustrations and muted, limited colours. The text provides the name of the country of origin, the name of the creature and a short sentence about each animal. Most of the animals featured are tropical animals from around the world. North America is represented by two insects. There is no connecting narrative between or after the spreads to give context to the events that may have caused the animals to be endangered.

Davey's book is the simplest commercially made book in the exhibit. It has, most likely, the least physical human interaction in the creation of the book, except at two points: the drawing of the digitally created illustrations on a computer and the folding of the pop-up shapes. The pop-ups are single-connected valley and mountain fold shapes, cut out but still attached to the spread page. The spread page has been die-cut and folded into the animals that arise out of the background. The shapes are precisely folded at the point of the cut and the spread page. Because of the complexity of the folds in each image, it is likely that human assistance was required to make the precise folds. The pages are best viewed with the spread pages opened to a 45-degree angle. Opened flat, the images fade back into the spread.

Maclean Hunter Room

Art Books

There are numerous books that translate art works into paper sculptures. The book on Leonardo Da Vinci, for example, is one of numerous movable books interpreting his multidisciplinary work. Other works in this case include the work of the Italian Futurists artists rendered into two and three-dimensional forms, an artist documenting his own art process through movable reconfigurations, and a book that is an instructional journey through European art history, illustrating concepts and principles along the way.

[43] Jerome R. Corsi. *Leonardo Da Vinci: A Three Dimensional Study.* Rohnert Park, CA: Pomegranate Books, 1995.

Da Vinci's work covers almost all Renaissance disciplines including painting, sculpture, architecture, mathematics, engineering, and natural sciences. He worked in the fine arts while conjuring and designing airplanes and war machines. His notebooks reveal a constantly curious mind. This work explores the various aspects of his output, bringing them to three-dimensional life, as well as striving to engage the reader further through interactive mechanisms such as pull tabs.

Additional credits: Produced by Blaze International Productions; engineered by Paul Wilgress; designed by Michael Wells; cover designed by Allen Boyce Eddington; printed in Taiwan and assembled in China.

[44] Christopher Frayling, Helen Frayling, and Ron Van der Meer. *The Art Pack.* New York: Alfred A. Knopf, 1992.

A journey primarily through European art is presented through discussions on key works, principles, and concepts. Structured as if the reader is on a tour through a physical art exhibition, the work includes a time chart, a booklet the reader keeps with them as they view the art work, and a set of postcards of the highlights for quick reference when the reader has finished the exhibition. Text and static images predominate and are interspersed with interactive elements such as flaps, wheels, pop-ups, and reconstructions of mechanical devices in paper. The book was conceived, devised, designed, paper engineered, and produced by Van der Meer Paper Design Ltd, with additional illustrations by Paul Compton.

[45] Domenico Cammarota. *Futur Pop-up.* Macerata, Italy: Bibliohaus, 2022.

Futur Pop-up celebrates the Italian Futurism art movement, which flourished briefly from 1909 to 1914. The movement was defined by its wide sphere of interests and concerns, and included all the traditional physical arts such as painting, sculpture, and architecture, as well as music and transformative social movements. The book celebrates the work of the founding members of the movement by re-interpreting key paintings, drawings, sculptures, and architectural proposals through three-dimensional pop-ups. It was issued as a limited-edition publication of fifty copies.

[46] Damien Hirst. *I Want to Spend the Rest of My Life Everywhere, with Everyone, One to One, Always, Forever Now.* New York: Monacelli Press, 1997.

Hirst's first publication is a sprawling image-filled document through which he explores his life, obsessions, and thought processes by way of text and movable elements. These include pop-ups, flaps, overlays, and pull tabs, all of which kinetically involve and pull the reader toward a greater understanding of Hirst's artistic work and ideas.

Additional credits: Designer: Jonathan Barnbrook; editor: Robert Violette; researcher: Honey Luard; design assistance: Jason Beard; paper engineer: Herman Lilie; printed and bound in China by Toppan Printing.

ABCs

Most likely conceived as a fun learning tool, the format of translating the alphabet into pop-ups is a favourite subject of book artists and paper engineers. Some of the works play with the words associated with the letters, while others play with the letters themselves. Two of the books in this case have won Meggendorfer Prizes for Best Paper Engineering, including the first-ever prize for that category.

[47] Robert Sabuda. *The Christmas Alphabet.* New York: Orchard Books, 1994.

Laid out as a series of cards—or even a set of Christmas presents—the book is very much within Sabuda's style: spare but complex white pop-ups upon muted coloured backgrounds and minimal text. Each letter card/present features movement and surprise for the reader as the object named is revealed, similar to the reaction one derives when they open a Christmas card or present. This was the winner of the Meggendorfer Prize for Paper Engineering in 1998.

[48] Marion Bataille. *ABC3D.* New York: Roaring Book Press, 2008.

Spare and sculptural, Marion Bataille's pop-up alphabet was designed as an artist book that was first displayed in a London art gallery exhibition. The content of the book is signalled by the lenticular cover, which changes through the letters of the title. The spreads and cover feature simple constructions in black, red, and white. The pop-up letters emerge as the pages are turned to reveal a letter, or the construction twirls and morphs into other letters through the use of flaps, pull tabs, and even a mirrored page. This was awarded the Meggendorfer Prize for Paper Engineering in 2010. The paper engineering and the book design is by Bataille and Michael Yuen designed the cover. The book was printed in China by SNP Excel.

[49] Mike Haines and Julia Frohlich. *Wild Alphabet: An A to Zoo Pop-up Book*. New York: Kingfisher, 2010.

This book scrolls through the alphabet by way of animals from birds to fish to mammals and reptiles. There is even a guest dinosaur. All of the images are black letters on white backgrounds which open up by using a pull tab to reveal a coloured image of the named animal. Some of the constructions are simple while others, such as the chinchilla running on its exercise wheel, are more complex. Haines developed the concept and designed the book, Frohlich was the paper engineer. The book was printed in Thailand.

[50] Courtney Watson McCarthy. *ABC Pop-Up*. Somerville, MA: Candlewick Studio, 2017.

ABC Pop-Up opens to a series of three-dimensional sculptures of objects. The first letter of the object's name is the letter featured. The colours of the spreads are soft and flat with contrasting white. The work forces the reader to engage with the pop-up by searching for the embossed letter inscribed on the paper. Often more than one letter is portrayed within a sculpture. The pop-ups are simple and direct, yet very effective and engaging. The book was printed in Thailand.

Religion

Religious texts are not obvious candidates for reinterpretation into pop-ups. However, the four books selected show that the format brings freshness and surprises to texts that may otherwise be regarded as solely suited for serious contemplation. The two Haggadot in the exhibition illustrate the introduction of lightheartedness into the religious text that is ceremoniously read during Passover. One is aimed directly at children, while the second version is an adaptation of a manuscript first issued in 1300.

[51] Vojtěch Kubašta. *Noah's Ark*. London: Bancroft & Co. Ltd, 1960s.

A retelling of the famous biblical story story in which Noah receives blueprints for the ark from an angel and a lion is voted First Officer. The pop-up figures on the insides of the second and third sections of the publisher's ads depict the animals building the ark, while Noah and the lion check in pairs of creatures. The back cover unfolds into a double-page pop-up of the ark filled with animals, expertly executed by Kubašta.

[52] Chuck Fischer. *In the Beginning: A Pop-Up Book.* New York: Little Brown and Company, 2008.

Inspired by Western paintings and sculptures, artist and designer Fischer and his longtime collaborator and paper engineer Bruce Foster illustrate in three dimensions the stories contained in the Biblical book of Genesis. It begins with the creation of the world and ends with Joseph's exile to Egypt. Each spread features a large, colourful, and complex central pop-up derived from European paintings and sculptures. These can be supplemented by an occasional smaller pop-up on the same spread. Except for the captions, the pop-up spreads do not contain text. Rather, the text, written by Curtis Flowers, is provided in small booklets flanking the central pop-up. The book was printed in China.

[53] *The Haggada of Passover: With Pop-Up Spread, Adapted from the Bird's-Head Haggada c.1300 in the Israel Museum.* Jerusalem: The Israel Museum and Koren Publishers, 1997.

The original Bird's Head Haggada was produced in Northern Germany around 1300. It was written on parchment with tempera illustrations. It has been postulated that the use of a bird's head on the figures was a way to circumvent the second biblical commandment that forbids the depictions of any likeness of things that can be found on earth. The pop-ups are simple and mostly activated by pull tabs. When the tabs are pulled, legs move, glasses are raised, rivers open paths, and food is made. The work is both serious and yet filled with light-hearted joyful humour. The accompanying text is in both Hebrew and English. The design and paper engineering is by Keith Moseley, and the book was illustrated by Linda Birkenshaw.

[54] *Die Haggadah des kindes.* Berlin: Hebraischer Verlag, 1933.

A Haggadah tells the story of the Jewish exodus from Egypt. It contains narrative, poems, and songs, and is read yearly at the Seder table during Passover. This version of the Haggadah, with text in both German and Hebrew, is intended for children in order to bring them closer to the rituals and the stories surrounding the ceremony. It employs three pop-ups to further engage the child and allow them to physically interact with the narrative. Two pop-ups are activated by a pull tab, and the last is a wheel that the reader revolves to change the images on the page. The text was edited by A.M. Silbermann, and the illustrations are by Erwin Singer.

בְּצֵאת יִשְׂרָאֵל מִמִּצְרַיִם

כג הגדה לילדים

בְּצֵאת יִשְׂרָאֵל מִמִּצְרַיִם

langsam ziehen

[55] *The Gospel of Mary*. Newark, VT: Janus Press, 2006.

The Gospel of Mary is a fragment of a Gnostic gospel written in the early second century CE. The translator and commentator of this version of the gospel identifies Mary as Mary Magdalene, a disciple of Jesus Christ. The Gospel's line images that appear throughout the work are based on diagrams documented in the work *Dynamic Symmetry: The Greek Vase* by Jay Hambridge. The single pop-up is a three-dimensional interpretation of the line images.

The English translation from the Greek is by Karen King with commentaries by Rosemary Radford Ruether; it was printed at the Janus Press Newark in Vermont. The cover and centre piece were pulp painted by Claire Van Vliet with Katie MacGregor in Whiting Maine, who also made the pop-up papers. Audrey Holden executed the woven binding with Barcham Green Cairo with boxes in De Wint by Holden, and birch trays by Richard Holmquist.

The Valentine Collection

The Fisher Rare Book Library holds a large collection of printed Valentine's Day Cards. The tradition of giving a handwritten and illustrated card or note expressing affection to a loved one in the name of Saint Valentine dates back roughly to the beginning of the eighteenth century. The printed card was first produced in the early nineteenth century. Plain at first, by the middle of the nineteenth century cards were produced on coloured and embossed papers. By 1900, German printers were producing colourful three-dimensional movable cards on card stock paper. The cards were inexpensive and much sought after.

The cards on exhibit are in three formats: a pull-down stage-like construction; a fold-open spread that often has a tissue paper accordion structure within it; and cards with movable elements such as wheels and levers attached by small metal pins or staples. Many of them employ chromolithography. The cards continued to be popular in the early twentieth century right through the Depression and both World Wars. As such, they bridge the period when movable books were often too expensive to produce. Thus, they kept alive the potential of a movable book or toy book.

The movable Valentine's Day cards produced in the early 1900s were predominantly intended for children to give and receive. The illustrations on the cards bear this out. Angels fly while cupids and children kiss and frolic amid gardens, flowers, fountains, and pagodas. Spring and early summer flowers such as forget-me-nots are featured. Birds, especially doves, are common. Reflecting the time period, some of the cards feature new vehicles such as cars and airplanes. Most cards contain at least one red heart. Religious symbols are rare.

Teacher ain't
look in
be my Valentine

WILL YOU
Teacher ain't
look in
be my Valentine

Loving
Greeting

ACKNOWLEDGEMENTS

I am grateful to both Janet Dewan and Barbara Tangney for their financial support of this exhibition catalogue. I would like to thank Loryl MacDonald who encouraged my interest in curating an exhibition on pop-up books for the Fisher Library. Timothy Perry was my first Fisher liaison for the exhibition. His help and suggestions were invaluable when I began to seriously work on this project in very early 2020. At the same time, Liz Ridolfo became a very valued resource, providing advice and bringing me new possibilities of books to consider for display. My time in the Fisher Reading Room was always a pleasure. I want to thank Andrew Stewart and Dustin McMurphy, the Reading Room Coordinators, for their assistance and patience. The Fisher's former conservator Linda Joy was instrumental in guiding some of my choices on what and how to display, along with repair work on some of the books. The look of the exhibition is entirely due to the Fisher's conservator Maia Balint. Paul Armstrong took the photographs of the exhibition items reproduced here. Finally, I would like to thank John Shoesmith, who also provided advice on artist-made movable books held at the library, and Marie Korey for editing the catalogue.

FURTHER READING

History

James Findlay. *Pop-up, Illustrated Books, and Graphic Designs of Czech Artist and Paper Engineer, Vojtěch Kubašta.* Fort Lauderdale, Fla.: Bienes Centre for the Literary Arts, 2005.

Peter Haining. *Movable Books: An Illustrated History.* London: New English Library, 1979.

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"Wow, open this": Paper Engineering in Books and Artist Books. Bruce Peel Special Collections Library. Edmonton, Alberta: University of Alberta Libraries, 2014

Paper engineering

Carol Burton. *The Pocket Paper Engineer: How to Make Pop-Ups Step-by-Step. Volume I: Basic Forms.* Glen Echo, Maryland: Popular Kinetics Press, 2005.

Duncan Birmingham. *Pop-Up design and paper mechanics: How to Make Folding Paper Sculpture.* Lewes, United Kingdom: The Guild of Master Craftsmen LTD, 2010.

Artist books

Claire Van Vliet and Elizabeth Steiner. *Woven and Interlocking Book Structures from the Janus, Steiner and Gefn Presses.* Vermont: Janus Gefn Unlimited, 2002.

Hedi Kyle and Ulla Warchol. *The Art of the Fold: How to Make Innovative Books and Paper Structures.* London: Laurence King Publishing Ltd., 2018.

Jean-Charles Trebbi. *The Art of Origami Books: Origami, Kirigami, Labyrinth, Tunnel and Mini-Books by Artists from Around the World.* Barcelona, Spain: Hoaki Books, S.L., 2021.

Most of the authors and paper engineers of the works in the exhibition have websites that include their profiles and views of their past and current works, as well as further works in progress. I would like to point out in particular Robert Sabuda's website: robertsabuda.com.